

# PROGRAM

*Generated on: 7 July 2017 at 15:00*

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## Sunday, 9 July 2017

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17:00 – 21:00 Registration and welcome refreshment

*Location: Pyramida Hotel - lobby*

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# Monday, 10 July 2017

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08:00 – 08:30

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## Opening addresses

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*Location: Pyramida Hotel Lecture Hall  
(chairperson: Václav Špička)*

08:30 – 10:00

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## 1 session: Quantum thermodynamics

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*Location: Pyramida Hotel Lecture Hall  
(chairperson: Christopher Jarzynski)*

08:30 – 09:00

Marlan Scully: *Quantum entropy*

09:00 – 09:30

Amir Ordacgi Caldeira: *Statistical entropy of open quantum systems*

09:30 – 10:00

Peter Hänggi: *(Quantum) - Thermodynamics at strong coupling and its implications for Stochastic Thermodynamics*

10:00 – 10:20

Coffee break

10:20 – 12:10

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## 2 session: Foundations of quantum physics

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*Location: Pyramida Hotel Lecture Hall  
(chairperson: Ana Maria Cetto)*

10:20 – 10:50

Philippe Grangier: *Recovering the quantum formalism from physically realist axioms*

10:50 – 11:20

Howard J Carmichael: *Monitored quantum jumps do not “jump”: A proposed experimental demonstration in superconducting circuits*

11:20 – 11:50

Alexia Auffèves: *Rebuilding quantum thermodynamics on quantum measurement*

11:50 – 12:10

Sebastian Deffner: *Foundations of statistical mechanics from symmetries of entanglement*

12:10 – 13:00

Lunch

13:00	–	15:00	<b>3 session: Nonequilibrium statistical physics</b>
<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Pawel Danielewicz)</i>			
13:00	–	13:30	Jens Eisert: <i>Quantum systems out of equilibrium, quantum simulation and the quest for quantum supremacy</i>
13:30	–	14:00	David Jennings: <i>Irreversibility and symmetry principles in quantum theory</i>
14:00	–	14:30	Wei-Min Zhang: <i>General non-Markovian dynamics in open quantum systems</i>
14:30	–	15:00	Howard Mark Wiseman: <i>What is quantum Markovianity?</i>
15:00	–	15:20	Coffee break
15:20	–	16:50	<b>4 session: Quantum transport</b>
<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Michael Thorwart)</i>			
15:20	–	15:50	Jianshu Cao: <i>Quantum coherence and thermodynamics in non-equilibrium transport</i>
15:50	–	16:20	Shmuel Gurvitz: <i>Closed quantum Master equations for energy transfer in Light-Harvesting complex and multi-exciton dynamics</i>
16:20	–	16:50	Daniel Esteve: <i>When quantum transport meets quantum optics</i>
16:50	–	17:00	Free time
17:00	–	18:20	<b>Round table discussion</b>
<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Václav Špička)</i>			
17:00	–	18:20	Quantum thermodynamics, measurement and systems out of equilibrium
18:20	–	19:30	Free time and transfer to Wallenstein Palace
19:30	–	22:30	<b>Welcome party</b>
<i>Location: Wallenstein Palace and its Garden</i>			
19:30	–	20:00	Opening
20:00	–	22:30	Welcome party in the Wallenstein Palace Garden

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## Tuesday, 11 July 2017

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08:00 – 10:00

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**1 session: Cold atoms**

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*Location: Pyramida Hotel Lecture Hall*

*(chairperson: Linda Reichl)*

08:00 – 08:30 Yoram Alhassid: *The nature of superfluidity in the cold atomic unitary Fermi gas*

08:30 – 09:00 Tilman Esslinger: *Supersolid phases in quantum gases*

09:00 – 09:30 Frédéric Chevy: *From ultraslow to ultrafast. Analog simulation of Weyl fermions using ultracold atoms*

09:30 – 10:00 Christophe Salomon: *Bose-Fermi dual superfluids*

10:00 – 10:20 Coffee break

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10:20 – 12:10

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**2 session: Plasmonics, biophysics**

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*Location: Pyramida Hotel Lecture Hall*

*(chairperson: Marlan Scully)*

10:20 – 10:50 Tamar Seideman: *Current-driven phenomena in surface nanoscience*

10:50 – 11:20 Philip Hemmer: *Organic nanodiamonds*

11:20 – 11:50 Reinhard Lipowsky: *From curvature elasticity to synthetic biology*

11:50 – 12:10 Stefan Klumpp: *Life in crowded conditions*

12:10 – 13:00 Lunch

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13:00 – 15:00

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**3 session - A parallel: Cold atoms, biophysics**

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*Location: Pyramida Hotel Lecture Hall A*

*(chairperson: Yoram Alhassid)*

13:00 – 13:30 Sylvain Nascimbene: *Ultracold dysprosium gases: A complex system from radiative trapping to many-body physics*

13:30 – 14:00 Nir Navon: *Tuning the dissipation scale of a quantum-gas turbulent cascade*

14:00 – 14:20 Fernando Sols: *Synthetic magnetic fields in cold atom systems*

14:20	–	14:40	Francesco Scazza:	<i>From <math>N+1</math> to <math>N+N</math>: Exploring repulsive many-body states with ultracold spin mixtures</i>
14:40	–	15:00	Lawrence S. Schulman:	<i>Model of horizontal gene transfer, and another power law mystery</i>
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13:00	–	15:00	<b>3 session - B parallel: Quantum transport, thermodynamics</b>	
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<i>Location: Pyramida Hotel Lecture Hall B</i>				
<i>(chairperson: James Freericks)</i>				
13:00	–	13:30	Klaus Ensslin:	<i>Spin-orbit interaction on the level of individual electrons</i>
13:30	–	14:00	Hyunggyu Park:	<i>Carnot efficiency in an irreversible process</i>
14:00	–	14:20	Martin Leijnse:	<i>A quantum-dot heat engine operated near its theoretical efficiency limits</i>
14:20	–	14:40	Mauro Antezza:	<i>Excitation injector in an atomic chain: Long-ranged transport and efficiency amplification</i>
14:40	–	15:00	Jakub Spiechowicz:	<i>Nonmonotonic temperature dependence of diffusion in driven periodic systems</i>
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13:00	–	15:00	<b>3 session - C parallel: Quantum phase transitions</b>	
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<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Alexander Shnirman)</i>				
13:00	–	13:30	Efrat Shimshoni:	<i>Classical and quantum buckling transitions in cold ion crystals</i>
13:30	–	14:00	Ralf Schuetzhold:	<i>Avalanche of entanglement and correlations at quantum phase transitions</i>
14:00	–	14:20	Thomas Vojta:	<i>Fate of the amplitude (Higgs) mode at a disordered quantum phase transition</i>
14:20	–	14:40	Ricardo Gutiérrez-Jáuregui:	<i>Fluctuations in dissipative quantum phase transitions at finite size</i>
14:40	–	15:00	Roland E Allen:	<i>Ultrafast phase transitions in advanced materials, including light-induced superconductivity</i>
15:00	–	15:20	Coffee break	

15:20	–	17:00	<b>4 session - A parallel: Quantum optics</b>	
<i>Location: Pyramida Hotel Lecture Hall A</i>				
<i>(chairperson: Marlan Scully)</i>				
15:20	–	15:50	Edward Strauss Fry:	<i>Integrating cavities and ultra-sensitive absorption spectroscopy</i>
15:50	–	16:20	Jean Etesse:	<i>Multiplexed quantum correlated photons generated with a tunable delay in a solid-state ensemble</i>
16:20	–	16:40	Janne Ruostekoski:	<i>Cooperative atom response to light and giant subradiant correlations in arrays of atoms</i>
16:40	–	17:00	Radim Filip:	<i>Non-Gaussian quantum optics and optomechanics</i>
15:20	–	17:00	<b>4 session - B parallel: Majorana fermions</b>	
<i>Location: Pyramida Hotel Lecture Hall B</i>				
<i>(chairperson: Thomas Vojta)</i>				
15:20	–	15:50	Alexander Shnirman:	<i>Emulating Majorana fermions and their braiding by Ising spin chains</i>
15:50	–	16:20	Pascal Simon:	<i>Topological superconductivity and Majorana bound states in 2D superconductors</i>
16:20	–	16:40	Llorenç Serra:	<i>Current distributions and conductance oscillations in stripe Majorana junctions</i>
16:40	–	17:00	Kyrylo Snizhko:	<i>Measurement and control of Coulomb-blockaded parafermion box</i>
15:20	–	17:00	<b>4 session - C parallel: Cosmology, quantum physics</b>	
<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Arkady Plotnitsky)</i>				
15:20	–	15:50	Andrei Khrennikov:	<i>Quantum-like models: From information laser to color revolutions, Brexit and Donald Trump</i>
15:50	–	16:20	Pavel Kroupa:	<i>Galaxy formation in Milgromian gravitation</i>
16:20	–	16:40	Theo M. Nieuwenhuizen:	<i>Subjecting theories of dark matter to the cluster test</i>
16:40	–	17:00	Y. Jack Ng:	<i>Gravitational thermodynamics and modified dark matter</i>
17:00	–	19:00	Free time and transfer to National House	

- 19:00 – 22:30 **Evening session: Public lecture of Anton Zeilinger and concert**  
*Location: National House of Vinohrady - Mayakovsky Hall*  
*(chairperson: Václav Špička, Peter Keefe)*
- 19:00 – 19:15 Music introduction and opening address
- 19:15 – 20:30 Public lecture
- 19:15 – 20:15 **Anton Zeilinger:** *From quantum puzzles to quantum information technology*
- 20:15 – 20:30 Discussion after the lecture of Anton Zeilinger
- 20:30 – 20:45 Break
- 20:45 – 22:00 **Concert of classical music**

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## Wednesday, 12 July 2017

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08:00 – 10:00 **1 session: Molecular machines, quantum engines**

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*Location: Pyramida Hotel Lecture Hall*

*(chairperson: Saar Rahav)*

08:00 – 08:30 Ronnie Kosloff: *Dynamical view of quantum thermodynamics*

08:30 – 09:00 Gershon Kurizki: *Universal thermodynamic bound on quantum engine efficiency*

09:00 – 09:30 Stefan Nimmrichter: *Quantum rotor engines and absorption fridges*

09:30 – 10:00 Ortwin Hess: *Quantum theory of room temperature single quantum-dot strong-coupling with plasmonic nanoresonators*

10:00 – 10:20 Coffee break

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10:20 – 12:10 **2 session - A parallel: Molecular Junctions**

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*Location: Pyramida Hotel Lecture Hall A*

*(chairperson: Ferdinand Evers)*

10:20 – 10:50 Abraham Nitzan: *Electron transfer across thermal gradients*

10:50 – 11:20 Ora Entin-Wohlman: *Enhanced performance of three-terminal thermoelectric devices*

11:20 – 11:50 Uri Peskin: *Field-induced inversion of resonant tunneling currents through single molecule junctions and the directional photoelectric effect*

11:50 – 12:10 Oren Tal: *Magneto-conductance and spin related shot noise properties of half-metallic molecular junctions*

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10:20 – 12:10 **2 session - B parallel: Cold atoms, transport**

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*Location: Pyramida Hotel Lecture Hall B*

*(chairperson: Yoram Alhassid)*

10:20 – 10:50 Thomas Gasenzer: *Strongly anomalous non-thermal fixed point in a quenched Bose gas*



- 10:50 – 11:20 Linda E. Reichl: *Microscopic hydrodynamic modes in a hard sphere binary mixture*
- 11:20 – 11:50 Gergely Zarand: *A semi-semiclassical approach to quantum quenches*
- 11:50 – 12:10 Marcos Cesar de Oliveira: *Staggered quantum walks with superconducting microwave resonators*

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10:20 – 12:10 **2 session - C parallel: Physics of information**

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*Location: Pyramida Hotel Conference Room 3  
(chairperson: William Wothers)*

- 10:20 – 10:50 Elisabetta Paladino: *Quantum control of non-Gaussian noise in hybrid quantum networks*
- 10:50 – 11:20 Giuseppe Falci: *Probing ultrastrong coupling by coherent amplification of population transfer*
- 11:20 – 11:50 Austin Peter Lund: *Boson sampling and continuous variables*
- 11:50 – 12:10 Masanao Ozawa: *Quantum root mean square error and universally valid uncertainty relations*

12:10 – 13:00 Lunch

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13:00 – 15:00 **3 session - A parallel: Quantum Thermodynamics, transport**

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*Location: Pyramida Hotel Lecture Hall A  
(chairperson: James Freericks)*

- 13:00 – 13:30 Andreas Wacker: *Violation of Onsager's theorem in approximate master equation approaches*
- 13:30 – 14:00 Ferdinand Evers: *Propagation of charge and energy density in disordered interacting quantum wires - ergodic phases with subdiffusive dynamics?*
- 14:00 – 14:20 Gilles Montambaux: *The generalized Stefan-Boltzmann law*
- 14:20 – 14:40 Rudolf Hilfer: *Thermodynamics in the presence of anomalous flows*
- 14:40 – 15:00 Haim Beidenkopf: *One dimensional hot electrons regain coherence in semiconducting nanowires*

13:00	–	15:00	<b>3 session - B parallel: General physics, biophysics</b>	
<i>Location: Pyramida Hotel Lecture Hall B</i>				
<i>(chairperson: Stefan Klumpp)</i>				
13:00	–	13:30	Denys Bondar:	<i>Measurement inspired modeling of dynamical systems</i>
13:30	–	14:00	Michael Guidry:	<i>A multidisciplinary approach to the theory of emergent states</i>
14:00	–	14:20	Marcelo Lozada-Cassou:	<i>Long range correlation in complex fluids</i>
14:20	–	14:40	Boris V. Fine:	<i>Lyapunov exponents in many-body systems from Loschmidt echoes</i>
14:40	–	15:00	Jiří J. Mareš:	<i>Possible role of quantum diffusion in ontogenesis of nervous tissue</i>
13:00	–	15:00	<b>3 session - C parallel: Foundations of quantum physics</b>	
<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Theo Nieuwenhuizen)</i>				
13:00	–	13:30	Ana María Cetto:	<i>A physical explanation for the connection between the electron spin and statistics</i>
13:30	–	14:00	Joan A Vaccaro:	<i>Physical signatures of the quantum nature of time</i>
14:00	–	14:20	Luis de la Peña:	<i>Classical explanation of the quantum problem of the particle in a well: Role of the zero-point radiation field</i>
14:20	–	14:40	Carlos Baladrón:	<i>Bell inequality violation in the framework of a Darwinian approach to quantum mechanics</i>
14:40	–	15:00	Arkady Plotnitsky:	<i>"Human, All Too Human:" On the concept of quantum state, from Bohr's atom to quantum automata</i>
15:00	–	15:20	Coffee break	
15:20	–	17:00	<b>4 session - A parallel: Superconducting junctions</b>	
<i>Location: Pyramida Hotel Lecture Hall A</i>				
<i>(chairperson: Oren Tal)</i>				
15:20	–	15:50	Mikko Möttönen:	<i>Experiments on temporally controllable dissipation in superconducting quantum circuits</i>

- 15:50 – 16:20 Andrei D. Zaikin: *Andreev levels as a quantum dissipative environment for superconducting nano-junctions*
- 16:20 – 16:40 Liliana Arrachea: *Josephson current in time-reversal invariant topological superconductors*
- 16:40 – 17:00 Thibaut Jonckheere: *Hanbury Brown and Twiss noise correlations in a topological superconductor beam splitter*

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15:20 – 17:00 **4 session - B parallel: Fluctuations**

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*Location: Pyramida Hotel Lecture Hall B*

*(chairperson: Yasuhiro Utsumi)*

- 15:20 – 15:50 Anne Anthore: *Controlling charge quantization with quantum fluctuations*
- 15:50 – 16:20 Kensuke Kobayashi: *Fluctuations along symmetry crossover in a Kondo-correlated quantum dot*
- 16:20 – 16:40 David Sanchez: *Cotunneling drag effect in double quantum dots*
- 16:40 – 17:00 Marti Perarnau-Llobet: *No-go theorem for the characterisation of work fluctuations in coherent quantum systems*

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15:20 – 17:00 **4 Session - C parallel: Graphene, Casimir forces**

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*Location: Pyramida Hotel Conference Room 3*

*(chairperson: Giles Montambaux)*

- 15:20 – 15:50 Eric Akkermans: *Quantum symmetry breaking: Observation of scale anomaly in graphene*
- 15:50 – 16:20 J. Miguel Rubi: *Casimir forces out of equilibrium*
- 16:20 – 16:40 Alessandro De Martino: *Chiral interface states in pn junctions in graphene*
- 16:40 – 17:00 Sense Jan van der Molen: *Probing the electronic coupling between atomically thin layers in van der Waals systems*

17:00 – 19:00 Free time and transfer to Rudolfinum

19:00	–	22:30	<b>Evening session: Public lecture of John Pendry and concert</b>
			<i>Location: Rudolfinum Dvořák's Hall</i>
			<i>(chairperson: Václav Špička, Peter Keefe)</i>
19:00	–	19:15	Music introduction and opening address
19:15	–	20:30	Public lecture
19:15	–	20:15	<b>John Pendry:</b> <i>Metamaterials and the science of invisibility</i>
20:15	–	20:30	Discussion after the lecture of John Pendry
20:30	–	20:45	Break
20:45	–	22:00	<b>Concert of classical music</b>

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## Thursday, 13 July 2017

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- 08:00 – 10:00 **1 session: Physics of mesoscopic systems**  
*Location: Pyramida Hotel Lecture Hall*  
*(chairperson: Ora Entin-Wohlman)*
- 08:00 – 08:30 Yigal Meir: *How can one measure the entropy of a mesoscopic system?*
- 08:30 – 09:00 Hermann Grabert: *Input-output theory for AC driven tunnel junctions*
- 09:00 – 09:30 Amnon Aharony: *Spin orbit interactions, time reversal symmetry and spin filtering*
- 09:30 – 10:00 Michael Pollak: *A new look at an old controversy: Interacting electrons in Anderson-Mott insulators*
- 10:00 – 10:20 Coffee break
- 10:20 – 12:10 **2 session: Optomechanics**  
*Location: Pyramida Hotel Lecture Hall*  
*(chairperson: Warwick Bowen)*
- 10:20 – 10:50 Markus Aspelmeyer: *New frontiers in quantum optomechanics: From levitation to gravitation*
- 10:50 – 11:20 Andreas Nunnenkamp: *Non-reciprocity and directional amplification with cavity optomechanics*
- 11:20 – 11:50 Joachim Ankerhold: *Multiple-period Floquet states and time-translation symmetry breaking in quantum oscillators*
- 11:50 – 12:10 Christoph Bruder: *Quantum synchronization*
- 12:10 – 13:00 Lunch
- 13:00 – 14:40 **3 session - A parallel: Nonequilibrium statistical physics**  
*Location: Pyramida Hotel Lecture Hall A*  
*(chairperson: Jurgen Stockburger)*
- 13:00 – 13:30 Michael Thoss: *Simulation of quantum transport in molecular junctions using multiconfiguration wavefunction and reduced density matrix methods*

- 13:30 – 14:00 Francesco Petruccione: *A repeated interaction approach to open quantum walks and open quantum Brownian motion*
- 14:00 – 14:20 Eric Lutz: *Irreversibility and the arrow of time in a quenched quantum system*
- 14:20 – 14:40 Peter Schmitteckert: *A discrete energy space induced fermion parity breaking fixed point of the Kondo model*

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13:00 – 14:40 **3 session - B parallel: Thermodynamics**

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*Location: Pyramida Hotel Lecture Hall B*

*(chairperson: Ronnie Kosloff)*

- 13:00 – 13:30 Shin-ichi Sasa: *Thermodynamic entropy as a Noether invariant*
- 13:30 – 14:00 Saar Rahav: *The copying fidelity of a polymerase facing an obstacle*
- 14:00 – 14:20 Patrick Haughian: *Quantum thermodynamics in strongly coupled quantum dots*
- 14:20 – 14:40 Roberto M. Serra: *Experimental rectification of entropy production by a Maxwell's demon in a quantum system*

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13:00 – 14:40 **3 session - C parallel: General physics**

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*Location: Pyramida Hotel Conference Room 3*

*(chairperson: Peter Keefe)*

- 13:00 – 13:30 Nicolas Roch: *Quantum simulation of the spin-boson model: Monitoring the bath*
- 13:30 – 14:00 Bryan J Dalton: *EPR steering, Bell non-locality and entanglement in systems of identical massive bosons*
- 14:00 – 14:20 Hans A Schuessler: *Sympathetic cooling of mixed ion Coulomb crystals*
- 14:20 – 14:40 Suzy Lidström: *Life, the universe, and everything – the emerging Renaissance of physics and astronomy*
- 14:40 – 15:00 Coffee break

15:00	–	16:00	<b>4 session - A parallel: Quantum transport</b>	
<i>Location: Pyramida Hotel Lecture Hall A</i>				
<i>(chairperson: Peter Schmitteckert)</i>				
15:00	–	15:20	Gianluca Rastelli:	<i>Ground state cooling of a nanomechanical resonator by electron transport</i>
15:20	–	15:40	Rafael Sánchez:	<i>All-thermal transistor based on stochastic switching</i>
15:40	–	16:00	Miguel Ortuno:	<i>Many-body localization from displacement transformations</i>
15:00	–	16:00	<b>4 session - B parallel: Stochastic thermodynamics</b>	
<i>Location: Pyramida Hotel Lecture Hall B</i>				
<i>(chairperson: Eric Lutz)</i>				
15:00	–	15:20	Haitao Quan:	<i>Stochastic thermodynamics of a particle in a box</i>
15:20	–	15:40	Édgar Roldán:	<i>Negative records of entropy production: The infimum law</i>
15:40	–	16:00	Izaak Neri:	<i>Universal statistics of entropy production in Langevin processes</i>
15:00	–	16:00	<b>4 session - C parallel: Superconductivity</b>	
<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Liliana Arrachea)</i>				
15:00	–	15:20	Peter D. Keefe:	<i>Proposed experimental investigation into relaxation phenomena in the adiabatic phase transition of Type I superconductor particles</i>
15:20	–	15:40	Dragos-Victor Anghel:	<i>New phenomenology from an old theory – the BCS theory of superconductivity revisited</i>
15:40	–	16:00	Michele Governale:	<i>Unconventional superconductivity from magnetism in transition metal dichalcogenides</i>
16:00	–	16:20	Free time	

16:20	–	17:00	<b>Special talk</b>
			<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Václav Špička)</i>
16:20	–	17:00	Emmanuel Fort: <i>Hydrodynamic analog of wave-particle duality</i>
17:00	–	18:50	<b>Poster session and refreshment</b>
			<i>Location: Pyramida Hotel - first floor</i>
18:50	–	20:00	Transfer to St. Vitus Cathedral
20:00	–	21:10	<b>Concert of classical music</b>
			<i>Location: Prague Castle - St. Vitus Cathedral</i>



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## Friday, 14 July 2017

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08:00	–	10:00	<b>1 session: Nonequilibrium statistical physics</b>
<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Michael Thorwart)</i>			
08:00	–	08:30	Jan van Ruitenbeek: <i>High current-bias effects in atomic and molecular junctions</i>
08:30	–	09:00	Rémi Avriller: <i>Time-dependent quantum transport in molecular junctions: Some effects of electron-phonon interactions</i>
09:00	–	09:30	James Freericks: <i>Relaxation of populations in nonequilibrium many-body physics: Breakdown of Mathiessen's rule</i>
09:30	–	10:00	Pawel Danielewicz: <i>Quantum dynamics of nuclear slabs: Mean field and short-range correlations</i>
10:00	–	10:20	Coffee break
10:20	–	12:10	<b>2 session - A parallel: Quantum transport</b>
<i>Location: Pyramida Hotel Lecture Hall A</i> <i>(chairperson: Pawel Danielewicz)</i>			
10:20	–	10:50	Emanuel Gull: <i>Monte Carlo for real-time diagrammatics on the Keldysh contour – results from inchworm quantum Monte Carlo</i>
10:50	–	11:20	Branislav K. Nikolić: <i>Diagrammatic and resummation algorithms for electron-magnon and electron-phonon interacting systems in nanjunctions far from equilibrium</i>
11:20	–	11:50	Claudio Verdozzi: <i>Green's function and (TD)DFT descriptions of lattice models out of equilibrium</i>
11:50	–	12:10	Michael Galperin: <i>Hubbard nonequilibrium Green functions</i>
10:20	–	12:10	<b>2 session - B parallel: Quantum heat engines</b>
<i>Location: Pyramida Hotel Lecture Hall B</i> <i>(chairperson: Saar Rahav)</i>			
10:20	–	10:50	Ahsan Nazir: <i>Performance of a quantum heat engine at strong reservoir coupling</i>

10:50	–	11:20	Fabio Taddei:	<i>Thermoelectric properties of an interacting QD-based heat engine</i>
11:20	–	11:50	Konstantin Dorfman:	<i>Quantum heat engine enhanced by coherence: Efficiency at maximum power and Chambadal-Novikov-Curzon-Ahlborn limit</i>
11:50	–	12:10	Thomas Fogarty:	<i>Shortcuts to adiabaticity in the Feshbach engine</i>

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10:20 – 12:10 **2 session - C parallel: Physics and information**

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*Location: Pyramida Hotel Conference Room 3*

*(chairperson: Austin Lund)*

10:20	–	10:50	Lea F Santos:	<i>Static and dynamical properties of isolated many-body quantum systems</i>
10:50	–	11:20	Yasuhiro Utsumi:	<i>Full-counting statistics of information content</i>
11:20	–	11:50	Ofer Biham:	<i>Analytical results for the distribution of shortest path lengths in random networks</i>
11:50	–	12:10	Eytan Katzav:	<i>The distribution of last hitting times of self avoiding walks on random networks</i>

12:10 – 13:00 Lunch

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13:00 – 14:30 **3 Session: Optomechanics**

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*Location: Pyramida Hotel Lecture Hall*

*(chairperson: Warwick Bowen)*

13:00	–	13:30	Dirk Bouwmeester:	<i>Entangling mechanical resonators</i>
13:30	–	14:00	Yaroslav M. Blanter:	<i>Light scattering in cavity optomechanics</i>
14:00	–	14:30	Marco Gramegna:	<i>Measuring non-commuting observables of a single photon via sequential weak values evaluation</i>

14:30 – 14:50 Coffee break

14:50	–	16:20	<b>4 Session: Physics of quantum information</b>	
			<i>Location: Pyramida Hotel Lecture Hall</i>	
			<i>(chairperson: William Wothers)</i>	
14:50	–	15:20	Steven Mark Girvin:	<i>Quantum bath engineering and quantum error correction in circuit QED</i>
15:20	–	15:50	Florian Fröwis:	<i>Experimental certification of millions of genuinely entangled atoms in a solid</i>
15:50	–	16:20	Mario Krenn:	<i>On computer-designed quantum experiments</i>
16:20	–	18:00	Free time and transfer to Břevnov Monastery	
18:00	–	23:00	<b>Conference dinner and concert</b>	
			<i>Location: Břevnov Monastery</i>	
18:00	–	18:20	Welcome	
18:20	–	19:30	Guided tour through Břevnov Monastery	
19:30	–	21:00	First part of the conference dinner	
21:00	–	22:00	<b>Concert of classical music in the St. Margaret Church</b>	
22:00	–	23:00	Second part of the conference dinner	

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## Saturday, 15 July 2017

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08:00 – 10:00 **1 session: Foundations of quantum physics**

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*Location: Pyramida Hotel Lecture Hall*

*(chairperson: Steven Girvin)*

08:00 – 08:30 D. Christian Glattli: *Levitons, minimal excitation states for single electron sources in electron quantum optics*

08:30 – 09:00 Marc Cheneau: *A two-particle, four-mode interferometer for atoms*

09:00 – 09:30 Sebastien Gleyzes: *A sensitive electrometer based on a Rydberg atom in a Schrodinger-cat state*

09:30 – 10:00 Johannes Handsteiner: *Cosmic Bell test: Measurement settings from Milky Way stars*

10:00 – 10:20 Coffee break

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10:20 – 11:50 **2 session: Quantum transport**

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*Location: Pyramida Hotel Lecture Hall*

*(chairperson: James Freericks)*

10:20 – 10:50 Michael Thorwart: *Quantum coherence in the dynamics of biomolecular excitons - revisited*

10:50 – 11:20 Wolfgang Belzig: *Quantum entanglement detection in quantum transport*

11:20 – 11:50 Warwick P. Bowen: *Single molecule biosensing at the quantum limit*

11:50 – 13:00 Lunch

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13:00 – 15:00 **3 session: Foundations of quantum physics**

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*Location: Pyramida Hotel Lecture Hall*

*(chairperson: Marc Cheneau)*

13:00 – 13:30 Yuval Gefen: *Bell non-local correlations from Majorana end-points*

13:30 – 14:00 Christopher Jarzynski: *A classical route to quantum control*

14:00 – 14:30 William Wootters: *The Boltzmann distribution and the quantum-classical correspondence*

14:30	–	15:00	Alexander Pechen:	<i>Use of a non-equilibrium environment for controlling open quantum systems</i>
15:00	–	15:20	Coffee break	
15:20	–	16:00	<hr/> <b>4 session: Nonequilibrium statistical physics</b> <hr/>	
			<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Branislav Nikolic)</i>	
15:20	–	15:40	Jürgen T. Stockburger:	<i>Mutual information: A key concept for irreversibility and mesoscopic thermodynamics</i>
15:40	–	16:00	Václav Špička:	<i>Relation between full NEGF, Non-Markovian and Markovian transport equations</i>
16:00	–	16:30	<hr/> <b>Closing and refreshment</b> <hr/>	